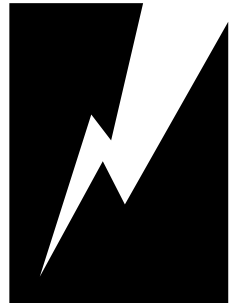


Indiana Tech Flash

Indiana's Most Comprehensive Electronic Resource For
Engineering & Technology Education.



Special points of
interest:

- Eleven Pages of Resources!
- Upcoming Events & Workshops



Features inside this
issue include:

State Surplus Computers	2
Free Pro/E 3D CAD	3
Animoto for Education	4
Free Stock Video Footage	5
SmartDraw & Homes of Our Own	7
IUPUI POWER Camp	8
Grants, Awards, & Opportunities	9-11

April 2010

Indiana Teachers & Programs Honored by ITEEA!



At the International Technology and Engineering Education Association conference in Charlotte, North Carolina (March 17-20) several Indiana teachers and programs were honored.

Honored Hoosiers include...

- Erica Ruckman and Dan Ginther were honored for Teacher Excellence.

- Fishers Junior High School and Goshen High School were honored for Program Excellence.
- Wade Thatcher was honored with the Outstanding Undergraduate College Student of the Year.
- Dr. Richard Seymour was honored with the Lockette/Monroe - Humanitarian Award.
- Megan Jackson from Indiana State University, FTE \$1,000 Undergraduate Scholarship.
- Ken Amos received the Outstanding Affiliate Representative.
- Ball State University won the TECA Technology Challenge.
- Indiana State University was awarded the Outstanding Technology Education Collegiate Association Chapter Award and the Outstanding TECA Membership Award.

Congratulations to all of the Indiana teachers and programs that have been honored, as well as to ALL of you who work everyday to make you students great! -mfitz

Upcoming Dates & Events

- April 13, 2010 The Indiana National Energy Education Development Project Workshop - Scottsburg
- April 14, 2010 The Indiana National Energy Education Development Project Workshop - Rensselaer
- April 15, 2010 The Indiana National Energy Education Development Project Workshop - Rensselaer
- April 23, 2010 The Indiana National Energy Education Development Project Workshop - Huntingburg
- April 23, 2010 Inaugural Boiler Tech Challenge 2010; Aim for the Stars - Columbus
- April 26, 2010 IMSTEAs Super Mileage Challenge - O'Reilly Raceway Park



The State of Indiana makes "surplus" computer hardware available to educational entities

under IC 5-22-21-7.5.

Questions about the program or about the status of pending orders may be directed to bflake@idoa.in.gov

http://www.doe.in.gov/super/2010/01-January/013010/documents/surplus_computer_request.pdf



CLICK TO PLAY

* Internet Explorer users - Double Click

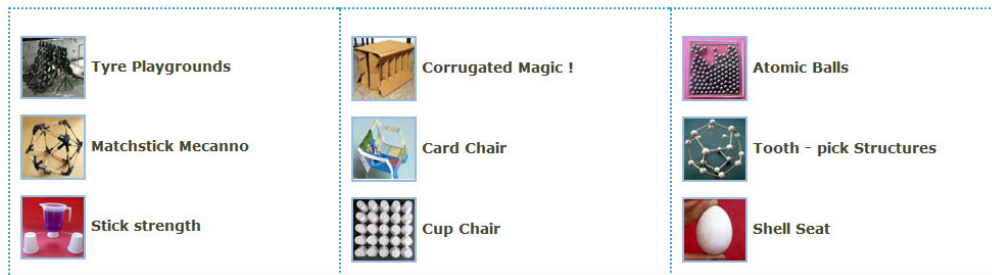
This 30-minute program was developed by the Center for Compact and Efficient Fluid Power (CCEFP) in cooperation with the National Science Foundation, the National Fluid Power Association, 15 other fluid power associations around the globe, as well as manufacturers and users of hydraulics and pneumatics.

Discovering Fluid Power

Request a free DVD of *Discovering Fluid Power* by **contacting us.**

<http://www.ccefp.org/news-desk/videos>

"Strong Structures"



Toys from Trash

A huge collection of resources, videos about

projects that can be made from recycled materials from your classrooms.

<http://www.arvindguptatoys.com/toys.html>



Blender 3-D design and animation software

Blender is the free open source 3D content creation suite, available for all major operating systems

<http://www.blender.org/>

ITEEA Membership Benefits

Our members are classroom teachers from elementary to high school, local and state/provincial supervisors, college/university faculty, and museum staff.

Their common ground is an interest and involvement in technology education. Serving members since 1939, ITEEA brings together

technology education professionals to share ideas, gain professional development, and

improve public understanding of technological literacy.



<http://www.iteaconnect.org/Membership/MembershipBenefits.pdf>



[Kevin Kelly tells technology's epic story](#)

In this wide-ranging, thought-provoking talk from TEDxAmsterdam.

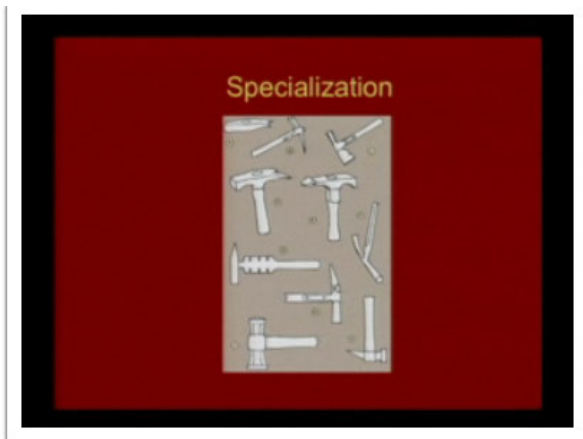
Kevin Kelly muses on what technology means in our lives -- from its impact at the personal level to its place in the cosmos.

http://www.ted.com/talks/kevin_kelly_tells_technology_s_epic_story.html



VU is committed to broadening the dual credit options available to Indiana students and providing them with opportunities to receive hands-on college experience in career and technical areas. With this in mind, we are pleased to announce that beginning in the Fall of 2009, ***Project EXCEL will waive the tuition fee*** for students enrolled in dual credit courses in select career and technical areas.

http://www.vinu.edu/cms/opencms/academic_resources/project_excel/

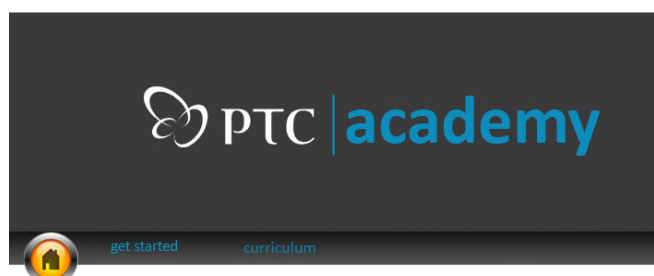


[Kevin Kelly on how technology evolves](#)

Tech enthusiast Kevin Kelly asks "What does

technology want?" and discovers that its movement toward ubiquity and complexity is much like the evolution of life.

http://www.ted.com/talks/kevin_kelly_on_how_technology_evolves.html



[PTC Pro/Engineer Academy](#)

Gain nearly 1 million worth of **FREE** CAD Software today!

Welcome to the PTC/ Academy learning portal. Here you will find self directed and self paced tutorials to get you started using your FREE Pro/ENGINEER Wildfire!

<http://www.ptcacademy.com/>



Elementary Design Briefs

LITE is a nonprofit Michigan corporation dedicated to assisting in the integration of Technology Education teaching and learning in schools around the state and Great Lakes region. We develop, manage, and provide resources and services for standards-based instruction.

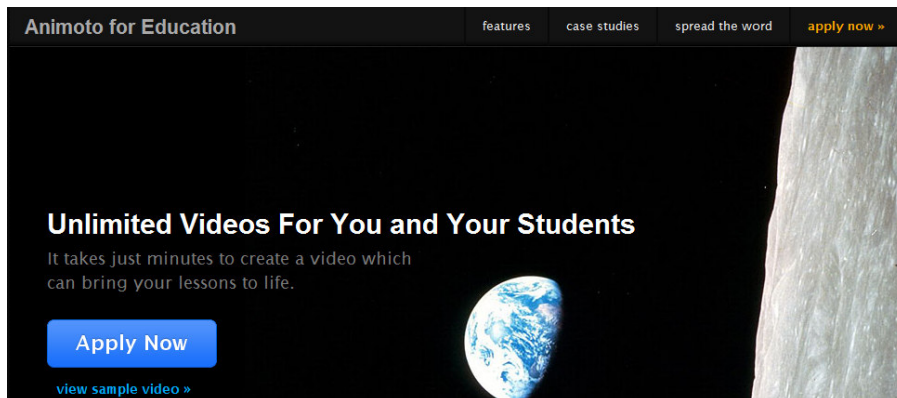
http://litesource.org/Aux_pages/Elementary%20Briefs.html



RUBISTAR

RubiStar is a free tool to help teachers create quality rubrics.

<http://rubistar.4teachers.org/index.php>



[Animoto.com for education](http://animoto.com/education)

If you are a teacher or educator, apply for a free *Animoto* all-access pass

for use in the classroom.

Produce unlimited full length videos from photos.

<http://animoto.com/education>

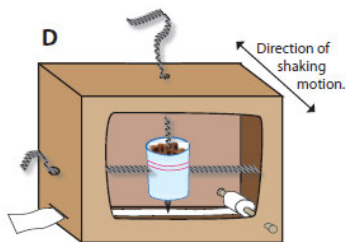
[DragonFlyTV's SciGirls videos and activity guides](http://www.womentechstore.com/scigirls.html)



Do a great job of bringing "geek chic" to kids. The DVDs feature a group of hip, racially diverse girls from around the country having fun with science and getting down and dirty - whether it's digging in the

bogs, playing taiko drums, building a doghouse, snorkeling, or playing sports. The girls make science colorful and fun, while explaining and demonstrating science concepts and serving as real world role models for your female students.

<http://www.womentechstore.com/scigirls.html>



[Build your own Seismograph](http://www.iris.edu/hq/files/programs/education_and_outreach/aotm/8/1.SeismographModel-Lahr.pdf)

Students will gain a greater appreciation of how a seismograph works, and a better

understanding of recordings of ground motion that they see on seismograms. In small groups of 3-4 students, students are asked to design and construct a seismograph using common household and craft materials provided.

Students will demonstrate to the class how their seismographs record motion.

http://www.iris.edu/hq/files/programs/education_and_outreach/aotm/8/1.SeismographModel-Lahr.pdf

Technology and Children



How will we meet the needs of society in the future? Where will the technologists, engineers, and innovators of the next generation come from? How can we stop the erosion of interest in science, technology, engineering, and math?

The answers to these questions may lie within your own classrooms. Elementary education teachers who use lessons that introduce creativity and innovation can help

students with career exploration and development.

[http://
www.iteaconnect.org/
Publications/TandC/
Sep09.pdf](http://www.iteaconnect.org/Publications/TandC/Sep09.pdf)

Architect Studio 3D

Design a House with Frank Lloyd Wright



Design Studio

On this Web site, you can design a house, walk through it in 3D, and then share it with the world. You can also learn more about architecture, past and present, and explore Frank Lloyd Wright's life and work.

[http://
www.architectstudio3d.or
g/AS3d/home.html](http://www.architectstudio3d.org/AS3d/home.html)

Help Center | My Account | Giving Cart: 0 items

An online charity connecting you to classrooms in need.

[See Projects](#) [Gifts](#) [About](#)

1. You give
to any classroom project request

2. We deliver
the materials to the teacher and kids

3. You change lives
and see it in photos and thank-you notes

[Social Media Challenge](#)
[Give-Back Birthday](#)

[Teachers go here!](#)

"I gave to my own project to ensure that"

DonorsChoose.org

is a simple way to provide students in need with resources that our public schools often lack. At this not-for-profit web site,

teachers submit project proposals for materials or experiences their students need to learn. These ideas become classroom reality when concerned individuals,

whom we call Citizen Philanthropists, choose projects to fund.

[http://
www.donorschoose.org](http://www.donorschoose.org)



Everyday Design Briefs

The following design briefs have been posted as a courtesy to teachers in Chesterfield County, Virginia. Remember to check out the activities in the grades above and below the grade you are look for. Most activities can be adapted to another grade level with a minimum of work.

[http://
www.childrensengineeri
ng.com/
everydaywoolridge.htm](http://www.childrensengineering.com/everydaywoolridge.htm)

FREE Time Lapse Stock Footage

10 DVDs with Hundreds of HD and SD Time Lapse Video Clips

- ✓ Pay only \$8.41 S&H for each DVD you request. (Normally \$249 + S&H)
- ✓ There is no catch! Just keep us in mind for future stock footage needs.
- ✓ Hurry, there are only 500 copies available!

[Footage Firm](#) is giving away 10 new time lapse footage collections containing over 150 clips: Get your collections now! All 10 collections are still

available, but they are only giving away a limited number of these, so if you are interested in any of them you should request yours before they run out.

[http://
www.footagefirm.com](http://www.footagefirm.com)



Lesson: Wind Power

This lesson plan outlines an inquiry-based activity that helps students discover the basics of wind power technology by building and refining a wind turbine. In addition, students examine the concept of renewable energy, identify the benefits and drawbacks of wind power, and compare its costs and impact on the environment with other energy sources.

<http://teachers.egfk12.org/lesson-wind-power/>

Civil Air Patrol (CAP) promotes and supports aerospace education



CAP educational programs (for its own members and the general public) help prepare American citizens to meet

the challenges of a sophisticated aerospace society and understand its related issues. CAP offers



national standards-based educational products, including a secondary textbook, *Aerospace: The Journey of Flight*, and the middle-school-level

Aerospace Dimensions. Aerospace Education Members can get classroom materials and lesson plans from CAP.

http://members.gocivilairpatrol.com/aerospace_education/index.cfm

Great Explorations in Math and Science (GEMS) Teacher Handbook available for download



The GEMS Teacher's Handbook is both an introduction to Great Explorations in Math and Science (GEMS) and a clear explanation of the elements included in all

GEMS guides available from the Lawrence Hall of Science, University of California, Berkeley. For the teacher considering integrating GEMS into his or her curriculum for the first time, the handbook describes the philosophy behind the series, its alignment with the National Science Education Standards, its flexibility in diverse settings, and the structure

of its teacher's guides. For all teachers, including those already familiar with GEMS, the book provides teaching strategies and tips that apply to all inquiry-based science and math activities.

<http://lawrencehallofscience.org/gems/GEMSpdf/teacher%27s%20handbook.pdf>

NASA Launches the Space Communication and Navigation (SCaN) simulation

The Space Communication and Navigation (SCaN) simulation, an "interactive simulation Web site launched by NASA that enables anyone to experience space mission activities, such as docking the space shuttle at the International Space Station" and traveling to



Mars. "The interactive simulation also offers a virtual 3-D experience to visualize how data travels along various space communications paths." Barbara Adde of NASA's Office of Space Communications and Navigation said, "The elaborate space communications networks that connect scientists and engineers with NASA's spacecraft is

essential to all of NASA's missions and can be a challenging concept to comprehend. ... This simulation helps explain this complex infrastructure in an engaging way."

http://www.nasa.gov/multimedia/3d_resource/spacecomm.html



Engineering Alliance, a partnership among Project Lead The Way (PLTW), TSA and SkillsUSA has been launched and is now available for pre-engineering programs. Designed for PLTW middle and high school programs, Engineering Alliance provides a limited number of online

competitions and leadership activities. All components are online and accessed through the Engineering Alliance website. Current TSA chapters may choose to also affiliate with Engineering Alliance. Be among the first 200 programs to affiliate with Engineering Alliance and receive Founding Partner status - immediate access to program components through the 2010-2011 school year, a Founding Partner plaque and

website recognition for your school. Information about Engineering Alliance can be found in the PLTW press release and on the Engineering Alliance website. If you have questions about Engineering Alliance please contact Sandy Honour at shonour@tsaweb.org or 1-888-860-9010 (toll free).

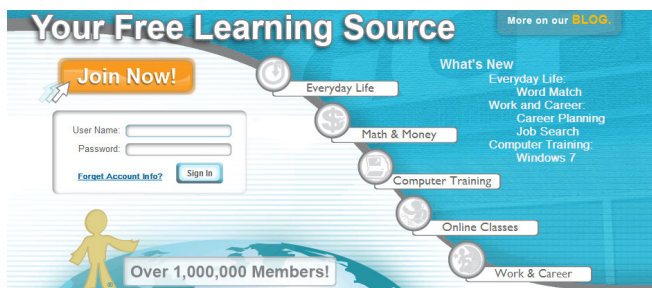
<http://engineeringalliance.org/>



SmartDraw is the ideal floor plan software

Start with the exact template you need—not just a blank screen. Add your information and SmartDraw does the rest, aligning everything and applying professional design themes for great results every time. Download Our Floor Plan Software **FREE!**

<http://www.smartdraw.com/>



GCFLearnFree.org

We create and provide quality, innovative online learning opportunities to anyone who wants to improve the technology,

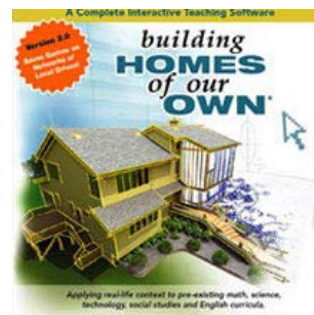
literacy, and math skills necessary for them to be successful in both work and life.

We believe there's freedom in the ability to



learn what you want, when you want, regardless of your circumstances.

<http://www.gcflearnfree.org/default3d.aspx>



Building Homes of our Own

Good news! We found one last box of *Building Homes of Our Own* CD-Rom games. Although our grant for providing free single copies to educators has expired, we can liquidate these last copies for a shipping and handling fee of \$12.00. If you are interested in securing one or more copies of the game, please contact us at dhayashi@aha-comm.com.

<http://www.homesofourown.org/>

Welcome to the NASA Lunar Electric Rover (LER) Simulator

You don't need a driver's license, but you still need to buckle up as the LER Simulator gives you a glimpse of what it might be like to support the activities of a functioning Lunar Outpost. Get busy. You never know if your skills here will become a major part of the NASA Astronaut application process in the future.



<http://www.nasa.gov/multimedia/podcasting/nasaedge/iphone.html>



Electric Power— Decisions for the Future

A look at the last 25 years of electricity consumption in the U.S. and the implications for the future, plus an activity that has students measure home electricity consumption and determine the effects of conservation practices.

[http://
www.techdirections.
com/](http://www.techdirections.com/)

POWER
SUMMER CAMP
July 11-17, 2010

Preparing Outstanding Women for Engineering Roles (POWER)

Power is a week-long summer residential camp for young ladies that will be entering 10th, 11th, and 12th grades. The POWER camp provides the opportunity to explore careers in engineering through hands-on activities and interaction with both professional female engineers and engineering college students.

[http://
www.engr.iupui.edu/
power/](http://www.engr.iupui.edu/power/)

Indiana Robotics Educators grant has been funded once again for Summer 2010

Please register early and pass this information along to other teachers. We have a lot of robot kits to distribute. First year participants will receive a VEX Robotics Starter Kit, Autodesk Inventor Professional Software, Autodesk Curriculum, workshop CD and other items. Second year participants will receive a VEX Starter Kit, VEX

Sensor Kit, workshop CD and other items. Third year participants will receive a VisualEdge Competition Kit and workshop CD. The third year workshop is only available in Indianapolis. Select the link to schedule your summer date and location to participate!

[http://jotform.com/
form/10801735639](http://jotform.com/form/10801735639)



STAR-LITE laboratory



Work with your colleagues (some humanoid, some not) to complete quests in a lab. The STAR-LITE laboratory can be chaotic



and safety violations will occur. You will make critical safety decisions to ensure that you and your colleagues work safely in a lab. STAR-LITE (Safe Techniques Advance Research — Laboratory

Interactive Training Environment) is an innovative and groundbreaking method to learn about laboratory safety techniques.

[http://
www.starlite.nih.gov/](http://www.starlite.nih.gov/)



Free high school robotics competition offers real-world engineering lessons

The Air Force Research Laboratory and the Institute of Navigation are hosting the Second Annual Mini-Urban Challenge on May 22 at Wright State University in Dayton. The competition

invites high school students to design, build and program a car using LEGO® MINDSTORMS® sensors to navigate at the contest site through a 20-foot by 20-foot city made entirely of LEGOs® building sets.

There is no cost for schools or students to participate because the sponsors provide all necessary materials, sensors and software. The competition provides

high school students with real-world engineering lessons in problem solving, technical language and teamwork with a goal of getting more students excited about engineering.

Direct any questions to Lieutenant Casey Miller at (937) 257-4775 or Casey@MiniUrbanChallenge.com

[http://www.ion.org/
outreach/muc/](http://www.ion.org/outreach/muc/)



Enter your school or group into the fourth national Reach for the Stars Rocket Contest

The contest is safe and exciting. The contestant

whose rocket lands closest to the target after two launches wins. The contest is great training for advanced rocketry contests like the Team America Rocketry Challenge (TARC) and NASA's Student Launch Initiative.

Six National winners: will receive their trophy at the Astronaut Hall of Fame and celebrate at the Kennedy Space Center Visitor Complex OR Receive their trophy from

author, *Homer Hickam* and celebrate at the October Sky Festival in Coalwood, West Virginia.

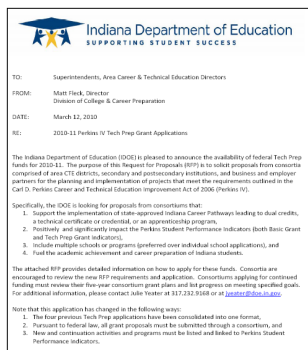
<http://therocketman.net/page0018.html>



Enter Your Students in a Google Design Competition

Are you a K-12 educator? Register for [Doodle 4 Google](http://doodle4google.com), a competition where students design the Google logo using a theme. The winning student gets a \$15,000 college scholarship, \$25,000 to the school for new computers, and a chance to have his or her design on the Google.com homepage.

<http://www.google.com/doodle4google>



2010-11 Indiana Perkins IV Tech Prep Grant Applications

The Indiana Department of Education (IDOE) is pleased to announce the availability of federal Tech Prep funds for 2010-11. The purpose of this Request for Proposals (RFP) is to solicit proposals from consortia comprised of area CTE districts, secondary and postsecondary institutions, and business and employer partners for the planning and implementation of projects that meet the

requirements outlined in the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV).

See March 12 of the Indiana Superintendent's Mail for more details.

<http://www.doe.in.gov/super/>



Summer 2010 Teacher-in-Residence Program at the Museum of Science

Engineering is Elementary Summer "Integrating Engineering and Mathematics" Teacher-in-Residence Positions. Spend five weeks at the Museum of Science as part of our Teacher-in-Residence program! Immerse yourself in the rich

learning environment of the museum, participate in weekly teacher learner seminars, meet other teachers, and work on a relevant Museum project.

EiE is recruiting elementary teachers to develop innovative math lessons that connect to the EiE curriculum. Prior experience with EiE materials is required.

Participants will also be expected to test lessons in their classrooms and

return to the Museum on Saturday, December 4 for a call-back meeting. Program Offerings will include a \$3,000 stipend, Massachusetts PDPs and complimentary EiE materials.

http://www.mos.org/educators/professional_development_and_events/professional_development&d=2597



Combining Academic and Technical Studies to Prepare Students for College and Careers

Students preparing for college and careers need access to career-focused programs of study that combine challenging academic content and intellectually demanding career/technical (CT) studies. Schools wanting to raise student achievement can create career-focused programs of study that connect a solid academic core with a sequence of CT courses.

<http://publications.sreb.org>



**START HERE
GO FURTHER**
FEDERAL STUDENT AID®

TEACH GRANT PROGRAM

Through the College Cost Reduction and Access Act of 2007, Congress created the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program that provides grants of up to \$4,000 per

year to students who intend to teach in a public or private elementary or secondary school that serves students from low-income families. If you are interested in learning more about the TEACH Grant Program, you should contact the financial aid office at the college where you will be

enrolled to find out if they will participate in the TEACH Grant Program. For a listing of the TEACH Grant eligible institutions, click [here](#).

<http://studentaid.ed.gov/PORTALSWebApp/students/english/TEACH.jsp>



Public Service Loan Forgiveness Program

As a teacher in a public school or public service job you might be all eligible for the **Public Service Loan Forgiveness Program**.

Please be advised that your loans must be with The Federal Department of Education and they may also be able to help consolidate your loans for you.

A **Consolidation Loan** allows you to combine one or more of your federal education loans

into a new loan that offers you several advantages such as one monthly payment, flexible repayment options, and reduced monthly payments. For more details contact the Public Service Forgiveness Program at: Contact 1-800-848-0979

<http://www.finaid.org/loans/publicservice.phtml>



**START HERE
GO FURTHER**
FEDERAL STUDENT AID®

Federal Perkins "Loan" Cancellations for Teaching in a Designated Subject Shortage Area

This cancellation is based on full-time teaching if there is a shortage of teachers in your subject area. Each year the state education agency

determines any subject shortage areas in the elementary and secondary schools within the state.

Check with your local school system or state education agency to find out if your subject matter area has been so designated. If you teach full time in science,

mathematics, foreign language, or bilingual education, you qualify for cancellation even if the state has not designated one of these subject areas as a shortage area. the "Teacher Shortage Areas" a nationwide listing by content area.

<http://studentaid.ed.gov/PORTALSWebApp/students/english/cancelperk.jsp>

Mike Fitzgerald
Education Specialist
Indiana Department of Education
mfitzger@doe.in.gov
317-232-6990

It is the policy of the Indiana Department of Education not to discriminate on the basis of race, color, religion, sex, national origin, age, or disability, in its programs, activities, or employment policies as required by the Indiana Civil Rights Law (I.C. 22-9-1), Title VI and VII (Civil Rights Act of 1964), the Equal Pay Act of 1973, Title IX (Educational Amendments), Section 504 (Rehabilitation Act of 1973), and the Americans with Disabilities Act (42 USCS §12101,et. seq.).

Inquiries regarding compliance by the Indiana Department of Education with Title IX and other civil rights laws may be directed to the Human Resources Director, Indiana Department of Education, Room 229, State House, Indianapolis, IN 46204-2798, or by telephone to 317-232-6610, or the Director of the Office for Civil Rights, U.S. Department of Education, 111 North Canal Street, Suite 1053, Chicago, IL 60606-7204



GRANTS, AWARDS & OPPORTUNITIES

INDOT offering limited number of scholarships Full-time students accepted or enrolled in a qualifying civil engineering program are encouraged to **learn more and download the two-page scholarship application**. Eligible Civil Engineering students accepted into or currently enrolled in the School of Engineering at an ABET accredited Indiana college or university may apply. Scholarship recipients also benefit by working for INDOT during summer breaks and after graduation. A limited number of scholarships are available. Apply Now! Scholarship amounts are \$3,125 per semester or \$2,083 per trimester. Scholarships can be applied toward an undergraduate or graduate degree in Civil Engineering, or any combination thereof, not to exceed five years total with a maximum of two years toward a graduate program. Scholarship recipients must attend school full-time.

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Shade Structure Program The American Academy of Dermatology's Shade Structure Program awards grants in the amount of \$8,000 each for the purchase of permanent shade structures designed to provide shade and ultraviolet(UV) ray protection for outdoor areas. The AAD also provides a permanent sign to be displayed near the shade structure that promotes the importance of sun safety. The AAD receives support for this program from Johnson & Johnson Consumer Products Company.

2010 Toyota International Teacher Program a fully-funded professional development program for U.S. educators. The program will take place November 20 – December 4, 2010 and the deadline to apply is May 26, 2010. Questions or more information, contact by email toyotateach@iie.org or by phone (toll-free) 877-832-2457.

Donors Choose Here's how it works: public school teachers from every corner of America post classroom project requests on DonorsChoose.org.

Indiana Space Grant Consortium for grants, scholarships, etc Indiana participates in a Consortium in order to carry out education, research, and public outreach activities in science, mathematics, engineering, and technology (STEM), as well as additional fields related to space, aeronautics, aviation, and Earth system science, while endeavoring to increase the financial and government support available to Space Grant Consortia. Each Consortium is made up of colleges, universities, businesses, and other private and public sector institutions, all working to further aerospace education and career training.